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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,849	08/29/2003	Paul M. Henry	50019.242US01/P05640	8150
23552	7590	04/27/2005		
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER CUNNINGHAM, TERRY D	
			ART UNIT 2816	PAPER NUMBER

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/651,849	HENRY, PAUL M.	
Examiner	Terry D. Cunningham	Art Unit	2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 23 March 2005.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-10, 13 and 15-21 is/are rejected.

7)  Claim(s) 11,12 and 14 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 07 October 2004 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Claim Objections***

Claims 10-12 are objected to as being informal. In claim 10, line 8, "hat" should be changed to --that--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

Claims 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 18-19, "a third amplifier" has already been recited in claim 15.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-9 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Lauffenburger et al. (USPN 6,657,487). Lauffenburger discloses, in Figs. 2 and 3, a circuit comprising: "a first stage means (Fig. 2, less 68 and 70) that includes an array of amplifier

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circuits (32 and 36-44)”; each amplifier including “an offset adjustment circuit (36-44)”, “a common node (outputs of switches 48-64)” and “an input (66)”; “a second stage means (68)”; “a reference signal (output of Gm)”; “a feedback means (72)”; and “a null control means (34)”, all connected and operating similarly as recited by Applicant.

Examiner notes that the above rejection now properly includes claim 1, which is recited as part of claim 3. Thus, the inclusion of claim 1 was supported by the rejection in the previous action.

Examiner has fully considered Applicant’s remarks for the above rejection and has not found them to be persuasive. Examiner contends that it is more than reasonable to consider circuits 36-44 as each being “an offset adjustment circuit” responsive to a respective “null control signal” from 34. Thus, the rejections are hereby maintained.

Claims 1-2, 13 and 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Linder et al. (USPN 5,581,213).

With respect to claims 1-2, 13, 15-19 and 21, Linder et al. discloses, in Figs. 2 and 6, a circuit comprising: “a first amplifier means ( $g_{m1}$ )”; “a first offset adjustment circuit (enable circuit in  $gm1$ , responsive to element 10)”; “a common node (13)”; “a second amplifier means ( $g_{m2}$ )”; “a reference signal ( $V_L$ )”; “a second offset adjustment circuit (enable circuit in  $gm2$ , responsive to element 10)”; “a third amplifier means ( $g_{m3}$ )”; “a third offset adjustment circuit (enable circuit in  $gm3$ , responsive to element 10)”; “a second stage means (12)”; “a feedback means ( $R_f$  and  $R_{gr}$ )”; and “a null control means (10)”, all connected and operating similarly as recited by Applicant.

With respect to claim 20, clearly the above circuit to Linder et al. will provide the recited method.

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Examiner has fully considered Applicant's remarks for the above rejection and has not found them to be persuasive. The reference to Linder et al. makes clear that element 10 provides signals to an element in each of the elements gm1-gmn, which will enable or disable it. Concerning the claim language, nowhere do the claims discuss what the "offset adjustment circuits" are adjusting the offset of. Clearly, which ones of the elements gm1-gmn are on or off will clearly determine the overall offset of the circuit, thus meeting the claim language.

***Claim Rejections - 35 USC § 103***

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over in Linder et al. (USPN 5,581,213) view of Bu (USPN 6,653,900). In the above-discussed circuit to Linder et al., there is no specific disclosure of the details for transconductance amplifiers gm1-gmn. The newly cited reference to Bu discloses, in Fig. 3, a circuit having the advantages of "smaller size, a simpler structure, and a good slew rate". The circuit of Fig. 3 of Bu discloses a transconductance amplifier having "a first transistor (51)", "a second transistor (53)", "a third transistor (55)", "a fourth transistor (54)" and "a fifth transistor (52)". It would have been obvious for one skilled in the art to use the specific transconductance amplifier of Bu for the broad transconductance amplifiers of Linder et al. for the expected advantages of "smaller size, a simpler structure, and a good slew rate".

***Allowable Subject Matter***

Claims 11, 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terry Cunningham whose telephone number is 571-272-1742. The examiner can normally be reached on Monday-Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**TC**  
**April 25, 2005**

  
**Terry D. Cunningham**  
**Primary Examiner**  
**Art Unit 2816**